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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,907	04/10/2001	Shmuel Eidelman	00479.00033	1031

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BANNER & WITCOFF  
1001 G STREET N W  
SUITE 1100  
WASHINGTON, DC 20001

EXAMINER

NAVE, EILEEN ENAD

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/828,907

Applicant(s)

EIDELMAN ET AL

Examiner

Eileen E. Nave

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on January 17, 2002 have been entered as Paper No. 5. Claims 3 and 6 have been amended. Claims 1-7 are now under consideration.

### ***Rejections Withdrawn***

#### ***Specification***

2. The objection of the disclosure because of minor informalities has been withdrawn in view of the amendment to the specification set forth in Paper No. 5.

### ***Claim Rejections - 35 U.S.C. § 112***

3. The rejections of claims 3, 6 and 7 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, are withdrawn in view of the amendment to claims 3 and 6 set forth in Paper No. 5.

### ***Response to Arguments***

4. In response to applicants' arguments and amendments, the rejection of claims 1-7 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over

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claims 1-7 of U.S. 6,232,519 B1, are hereby withdrawn. Please consider the new rejection of claims 1-5, 7-11, 13-16 and 18-21, which follows.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPO 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPO 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPO 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPO 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,232,519 B1 in view of Holt et al (US 5,198,188).

Instant claims 1-5, 6 and 7 correspond to claims 3-7, 1 and 2 of U.S. Patent No. 6,232,519 B1 and meet the limitation of the reactive compound being an essentially stoichiometric combination of sulfur and a metal selected from the group consisting of zirconium, chromium, indium, titanium, manganese, iron, and blends thereof. U.S. Patent No. 6,232,519 B1 does not disclose that the reactive compound may also be an essentially stoichiometric combination of carbon and a metal selected from the group consisting of hafnium, zirconium, titanium, silicon,

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and blends thereof. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an essentially stoichiometric combination of carbon and a metal selected from the group consisting of hafnium, zirconium, titanium, silicon, and blends thereof as the reactive compound that undergoes a self-propagating high temperature synthesis (SHS) reaction in the process of U.S. Patent No. 6,232,519 B1 because Holt et al teaches that Ti, B, C, Ta, Al, Se, Zr, Mg, Ni, W, Cr, Hf and mixtures thereof are exoergic materials which react to release relatively large quantities of energy and which are capable of sustaining a self-propagating combustion synthesis reaction and also form composite materials such as borides, sulfides, selenides, aluminides and silicides (col. 5, ln. 31-36 & col. 6, ln. 60-col. 7, ln. 15). Therefore, the sulfur with zirconium and/or titanium reactive compound and the carbon with hafnium, zirconium, titanium and/or silicon reactive compound are known SHS reaction equivalents, which each can be substituted for one another for the same purpose of creating a SHS reaction. *In re Fout*, 675 F.2d 297, 213 USPO 532 (CCPA 1982).

### *Citations*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(A) Welham (US 5,790,963) discloses a method for disposing of an explosive munition consisting of a mass of explosive contained in a casing, which method comprises locally heating a region of the casing, by use of a thermit, such as a mixture of aluminum and iron oxide and silica

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sand, to a temperature below the melting point of the material of the casing but sufficiently high to initiate combustion of the explosive mass.

(B) Barkdoll (US 5,582,119) discloses a method for the treatment of explosive waste using a heated bed of granular material, such as sand and silicon-iron balls or particulates containing aluminum oxide and/or silicon dioxide, as well as granular refractory materials including alumina, and silicon carbide.

(C) Brupbacher et al (US 5,212,343) discloses a method for contacting a hot reaction mass with water to initiate an explosive reaction. The reaction mass comprises a ceramic or intermetallic material that is produced by exothermically reacting a mixture of reactive elements. Suitable reaction masses include borides and/or carbides that are formed by reacting a mixture comprising B and/or C in combination with an element selected from Ti, V, Cr, Zr, Nb, Mo, Hf, Ta and W.

### ***Conclusion***

8. No claims are allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eileen E. Nave whose telephone number is (703) 305-0033.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (703) 308-1164.


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The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9671 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Nave/een

April 7, 2002

  
STEVEN P. GRIFFIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700